

**AMENDMENTS TO THE CLAIMS**

1. (Withdrawn) A targeting construct comprising:
  - (a) a first polynucleotide sequence homologous to a chemokine receptor 9A gene;
  - (b) a second polynucleotide sequence homologous to the chemokine receptor 9A gene; and
  - (c) a selectable marker.
2. (Withdrawn) The targeting construct of claim 1, wherein the targeting construct further comprises a screening marker.
3. (Withdrawn) A method of producing a targeting construct, the method comprising:
  - (a) providing a first polynucleotide sequence homologous to a chemokine receptor 9A gene;
  - (b) providing a second polynucleotide sequence homologous to the chemokine receptor 9A;
  - (c) providing a selectable marker; and
  - (d) inserting the first sequence, second sequence, and selectable marker into a vector, to produce the targeting construct.
4. (Withdrawn) A method of producing a targeting construct, the method comprising:
  - (a) providing a polynucleotide comprising a first sequence homologous to a first region of a chemokine receptor 9A gene and a second sequence homologous to a second region of a chemokine receptor 9A gene;
  - (b) inserting a positive selection marker in between the first and second sequences to form the targeting construct.
5. (Withdrawn) A cell comprising a disruption in a chemokine receptor 9A gene.
6. (Withdrawn) The cell of claim 5, wherein the cell is a murine cell.
7. (Withdrawn) The cell of claim 6, wherein the murine cell is an embryonic stem cell.

Claims 8-10 (Canceled)

11. (Withdrawn) A method of identifying an agent that modulates the expression of a chemokine receptor 9A, the method comprising:
  - (a) providing a non-human transgenic animal comprising a disruption in a chemokine receptor 9A gene;

- (b) administering an agent to the non-human transgenic animal; and
- (c) determining whether the expression of chemokine receptor 9A in the non-human transgenic animal is modulated.

12. (Withdrawn) A method of identifying an agent that modulates the function of a chemokine receptor 9A, the method comprising:

- (a) providing a non-human transgenic animal comprising a disruption in a chemokine receptor 9A gene;
- (b) administering an agent to the non-human transgenic animal; and
- (c) determining whether the function of the disrupted chemokine receptor 9A gene in the non-human transgenic animal is modulated.

13. (Withdrawn) A method of identifying an agent that modulates the expression of chemokine receptor 9A, the method comprising:

- (a) providing a cell comprising a disruption in a chemokine receptor 9A gene;
- (b) contacting the cell with an agent; and
- (c) determining whether expression of the chemokine receptor 9A is modulated.

14. (Withdrawn) A method of identifying an agent that modulates the function of a chemokine receptor 9A gene, the method comprising:

- (a) providing a cell comprising a disruption in a chemokine receptor 9A gene;
- (b) contacting the cell with an agent; and
- (c) determining whether the function of the chemokine receptor 9A gene is modulated.

15. (Withdrawn) The method of claim 13 or claim 14, wherein the cell is derived from the non-human transgenic animal of claim 8.

16. (Withdrawn) An agent identified by the method of claim 11, claim 12, claim 13, or claim 14.

Claims 17-22 (Canceled)

23. (Withdrawn) A method of identifying an agent that ameliorates a phenotype associated with a disruption in a chemokine receptor 9A gene, the method comprising:

- (a) administering an agent to a transgenic mouse comprising a disruption in a chemokine receptor 9A gene; and

(b) determining whether the agent ameliorates at least one of the following phenotypes: decreased agility, coordination, or balance relative to a wild-type mouse.

24. (Withdrawn) A method of identifying an agent that modulates chemokine receptor 9A expression, the method comprising:

- (a) administering an agent to the transgenic mouse comprising a disruption in a chemokine receptor 9A gene; and
- (b) determining whether the agent modulates chemokine receptor 9A expression in the transgenic mouse, wherein the agent has an effect on at least one of the following behaviors: decreased agility, coordination, or balance relative to a wild-type mouse.

25. (Withdrawn) A method of identifying an agent that modulates a behavior associated with a disruption in a chemokine receptor 9A gene, the method comprising:

- (a) administering an agent to a transgenic mouse comprising a disruption in a chemokine receptor 9A gene; and
- (b) determining whether the agent modulates agility, coordination, or balance of the transgenic mouse.

26. (Withdrawn) A method of identifying an agent that modulates chemokine receptor 9A gene function, the method comprising:

- (a) providing a cell comprising a disruption in a chemokine receptor 9A gene;
- (b) contacting the cell with an agent; and
- (c) determining whether the agent modulates chemokine receptor 9A gene function, wherein the agent modulates a phenotype associated with a disruption in a chemokine receptor 9A gene.

27. (Withdrawn) The method of claim 26, wherein the phenotype comprises at least one of the following: decreased agility, coordination, or balance relative to a wild-type mouse.

28. (Withdrawn) An agent identified by the method of claim 23, claim 24, claim 25, or claim 26.

29. (Withdrawn) An agonist or antagonist of a chemokine receptor 9A receptor.

30. (Withdrawn) Phenotypic data associated with the transgenic mouse of claim 17 or claim 21, wherein the data is in a database.

31. (Previously presented) A transgenic mouse whose genome comprises a disruption in an endogenous chemokine receptor 9A gene, wherein where the disruption is homozygous, the

transgenic mouse exhibits decreased agility, coordination or balance, relative to a wild-type mouse.

32. (Previously presented) The transgenic mouse of claim 23, wherein the decreased agility, coordination or balance comprises decreased performance on an accelerating rotarod, when compared to a wild-type mouse.

33. (Previously presented) The transgenic mouse of claim 32, wherein the decreased performance is characterized by falling from an accelerating rotarod at lower speeds relative to a wild-type mouse.

34. (Previously presented) A cell obtained from the transgenic mouse of claim 23.

35. (Previously presented) A transgenic mouse comprising a heterozygous disruption in an endogenous chemokine receptor 9A gene, wherein the disruption in a homozygous state results in a transgenic mouse exhibiting decreased agility, coordination or balance, relative to a wild-type mouse.

36. (Previously presented) The transgenic mouse of claim 35, wherein the decreased agility, coordination or balance comprises decreased performance on an accelerating rotarod, when compared to a wild-type mouse.

37. (Previously presented) The transgenic mouse of claim 36, wherein the decreased performance is characterized by falling from an accelerating rotarod at lower speeds relative to a wild-type mouse.

38. (Currently amended) A method of producing a transgenic mouse comprising a disruption in an endogenous chemokine receptor 9A gene, the method comprising:

- providing a murine-mouse embryonic stem cell comprising a disruption in an endogenous chemokine receptor 9A gene;
- introducing the murine-mouse embryonic stem cell into a blastocyst;
- implanting the resulting blastocyst into a pseudopregnant mouse, wherein said pseudopregnant mouse gives birth to a chimeric mouse; and
- breeding the chimeric mouse to produce the transgenic mouse comprising a disruption in the endogenous chemokine receptor 9A gene;  
wherein where the disruption is homozygous, the transgenic mouse exhibits decreased agility, coordination or balance, relative to a wild-type mouse

39. (Previously presented) The transgenic mouse produced by the method of claim 38.